Washington State Department of Transportation

Memorandum

May 31, 2016

TO: Barbara Briggs
Mail Stop: NB82-120

THRU: Miguel Gavino / Mike Koidal / Chris Damitio
Mail Stop: NB82-120 (Miguel), NB82-210 (Mike, Chris)

FROM: Jason Koreski / Mikkel Lamay MAL FOR JASON KORESKI
(360) 788-7410/ (360) 788-7402, NB82-55

SUBJECT: SR 20 Sharpes Corner Vicinity Improvements
Channelization Plan Submittal

We have attached for your approval the channelization plan package for this project. The channelization plan package includes the following: Channelization plan checklist and channelization plan sheets. The Auto Turn plots, and Fastest Path diagrams for Roundabout Speed Analysis are pending.

If you have any questions, concerns, or require further information, please contact Chris Pillar (360)788-7439.

CC
Attachments

SR: 20 Project Title: SR20 Sharpes Corner Vicinity Improvements Submittal Date: See Memorandum

City/County: Anacortes / Skagit Begin MP: 47.04 End MP: 48.40

WSDOT NORTHWEST REGION (In-House) CHANNELIZATION PLAN CHECKLIST

WSDOT's stewardship role includes responsibility for ensuring that changes within the traveled way of state highways are consistent with accepted design guidance. Within the Northwest Region, a Channelization Plan is used to document the relationship between features and elements that combine to form the highway and verify that they are within accepted design guidance. Features and elements not meeting accepted design guidance may be subject to further documentation requirements. See Design Manual Section 300.04(4). Channelization plans are also used by anyone looking for geometric information after construction is completed. Channelization plans are preserved under RCW Title 40, Public Documents, Records, and Publications and are permanently archived on mylar. Since channelization plans are design documents they are only valid for three (3) years after approval (Design Manual 300.08). Channelization plans and the associated design variances that are older than three years must be reevaluated for conformance to current standards.

GENERAL REQUIREMENTS FOR THE CHANNELIZATION PLAN SET

☑ Use the latest updates of the WSDOT Design Manual M22-01 (DM), the Manual of Uniform Traffic Control Devices (MUTCD), and the Local Agency Guidelines Manual M36-63, where appropriate. Use terminology specified in the WSDOT Standard Plans M41-10, and the WSDOT Design Manual.

☑ Use plan scale of not less than 1" = 60' for 11" x 17" plots and not less than 1" = 30' for the final full size 22"x34" mylar plot. The preferred scale is 1" = 50' for 11" x 17" plots. Freeway, sidewalk improvement only and Interstate plans may use a different scale **with the written approval** of the Area Traffic Engineer.

☑ Show the final channelization where improvements are new in full tone. Include stations and dimensions of all channelization features where the new improvement ties in to the existing roadway.

☑ Show existing channelization information in 80% gray tone OR using the dashed line styles as shown in the latest version of the Plans Preparation Manual (M 22-31). Existing features that will not remain after construction should not be shown.

☑ Show at least 300' of existing channelization beyond the improvement limits on the state highway(s). On intersecting roads (public or private) and commercial and multi-residential road approaches, show 100' of existing or new channelization beyond the radius returns or to the limited access limits, which ever is greater. These requirements may be adjusted **with the written approval** of the Area Traffic Engineer.

EXCEPT TO SURVEY LIMIT, OR TO ONLY SHOW LANE LINE EXTENSION

☐ Provide two half size (11"x 17") original plots of the channelization plan(s). Scanned images and photocopied plan sheets will not be accepted. One full size (22" x 34") mylar stamped and signed by the design engineer is required for final approval. Per WAC 193-23-020, plans should be marked "PRELIMINARY" until the final signed plan is submitted. See Channelization Plan Review Process and Final Approval below.

TO BE COMPLETED AT THE APPROPRIATE TIME

☐ N/A Submit related Design Variance (Corridor or project analyses, deviations, evaluate upgrades, design exceptions, and justifications) requests to the Area Design Reviewer for review and approval. Channelization plans cannot be approved until all design variances and maximum extent feasible documentation is approved.

☐ N/A Submit any calendar actions and traffic signal permit applications for Northwest Region Traffic Engineer's approval. Calendar actions and proposed traffic signals should be discussed with the Area Traffic Engineer early in the design process. Do not wait until the channelization plan submittal to discuss these items. Calendar actions are required for things such as speed limit changes and turning movement restrictions (no u-turns, no right turn on red). Note: a calendar action is a change to something written into law.

CHANNELIZATION PLAN SHEETS

Channelization plan sheets show the highway in plan view. The plan should show sufficient width to show all roadway features and any features outside the roadway prism that may impact the roadway users.

☑ The plans shall not show any materials, signing, utilities, landscaping, topography, or electrical and signal appurtenances.

☑ Alignment centerlines for all roadways including all intersecting streets. This includes private roads, large commercial approaches, and multi-family road approaches. Centerline line type shall follow the construction centerline requirements for *Highway Alignment to be Constructed* as shown in the Plans Preparation Manual (M 22-31). Include 100 ft or 50 ft major stations. Stationing shall follow the direction of increasing milepost, read left to right. Alignment centerlines should follow the channelization (striping) and not the R/W centerline.

☑ Highway, Street, and alignment names. State routes with local names should include both names. The local name should be shown in parenthesis (e.g. SR 999 (Local Rd.)) Follow the construction centerline requirements for *CLine PSE New SR No Text* as shown in the CADD Standards for MicroStation using Expanded Levels (M 3029.01), section AL_HW Alignment – Highway Items (http://www.wsdot.wa.gov/Publications/ Manuals/M3029.htm).

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- [x] Intersection angles labeled for all intersecting streets and ramps. See Channelization Elements sheet.
- [x] Intersection alignment centerline equations. Include the milepost of the intersection.
- [x] Begin and End Project callouts for all State Routes. Include both the milepost and alignment station. Note, the limits of channelization improvements are the limits of the new channelization and may not be the same as the project limits. See Channelization Elements sheet.

END PROJECT IS OUT OF SHEET BOUNDARIES

- [ ] Channelization-related Design Variance callouts and notes. See Channelization Elements sheet. N/A
- [x] Curve data for each alignment curve (P.I. station, curve delta, curve radius, tangent, length, superelevation, spiral data (if applicable), and curve design speed). See the Channelization Elements sheet.
- [x] Proposed right of way and limited access lines. Also show right of way easements for channelization features. See Section 3 of the Plans Preparation Manual (M 22-31) for line style requirements. Do not include dimensions. Include a note that the right of way/limited access lines shown are for information only and to see the right of way plans to confirm actual limits.
- [x] Label edge of traveled way and edge of pavement lines.
- [x] Show raised curbing (label curb type: mountable, barrier, etc.). Barrier, guardrail, walls, rumble strips and pedestrian rail may also need to be shown. Consult with your reviewers.
- [x] Widths of lanes (through, turn, auxiliary, HOV, and BAT) , medians, shoulders, sidewalks, and planter strips / amenity zones. Where a feature line does not follow the alignment centerline, label widths on both sides of the centerline. Measurements are made to the face of curb/barrier.
- [x] Arrows and Symbols for lane designations - Turn lane, HOV lane and Bicycle Lane (shown for informational purposes only)
- [ ] Begin and end stations of right and left turn storage lanes. N/A
- [x] Begin and end stations with offsets for all lane transitions, channelization and pavement tapers. Taper rate (x.x:1) in both the begin and end taper call outs may be requested by your reviewers.
- [x] Label the right and left turn radii for intersections. Label the right turn radii only for private road approaches, and commercial and multi-residential road approaches. See the Channelization Elements sheet.
- [x] Show all sidewalk ramps, stop bars and crosswalks. See the Channelization Elements sheet.
- [x] Show and label the locations of transit stops and driveways. Include widths and/or lengths.
- [x] **Design Data Box**, including all of the following information for the state highway(s), intersecting roads (public or private) and commercial and multi-residential road approaches. The preferred location of the Design Data Box is the first channelization plan sheet. See the Channelization Elements sheet for format.
  - [x] Functional Class
  - [ ] Highway Design Class N/A
  - [x] NHS Status
  - [ ] Design Matrix and Line N/A
  - [x] Access Control or Managed Access Class
  - [x] Design Vehicle
  - [x] Posted and Design Speeds
  - [x] Terrain
  - [x] Truck Percentage
- [ ] Include a vicinity map and a sheet key for larger (10 sheets or more) or complex (interchanges) projects. See the Channelization Elements sheet. N/A

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The following items are to be included on every plan sheet:

- [x] A title block with the Project Title w/ State Route Number(s), Begin & End Mileposts, City and County, submittal Date and Page Number. See the Channelization Elements sheet for the specific format.
- [x] North arrow. See the CADD Standards for MicroStation using Expanded Levels (M 3029.01), section SH_GI Sheets – General Sheet Items (http://www.wsdot.wa.gov/Publications/Manuals/M3029.htm).
- [x] Scale bar. The preferred location is at the bottom of the sheet near the WSDOT approval signature block.
- [x] Section, Township, and Range. See the Channelization Elements sheet for specific format.
- [x] WSDOT approval signature block. The preferred (not required) location is at the bottom of the sheet in the right corner. See Channelization Elements sheet for the signature block detail. Signature block is not required on plan sheets that do not show new channelization on state routes.

DETAIL SHEETS

Details supplement portions of the channelization plans that can not be adequately shown on the channelization plan sheets. Detail sheets are to be stamped and signed by the engineer. The detail sheets also need to include the WSDOT approval signature block.

- [x] Details of all raised & striped traffic islands. At a minimum, details should include: offsets of key locations from reference lines, shy distances to curbs, curb type, any curbing or striped radii, angle points, and all sidewalk ramps or barrier-free passageways. Projected square footage of islands may be requested by your reviewers. See Design Manual (M22-01) Chapter 1310.
- [ ] N/A Details of curb extensions (bulb outs). Include begin and end transition stations and offsets as well as curve radii.

TYPICAL ROADWAY SECTIONS

Typical roadway sections are a required part of the channelization plans. However, they are informational only and should not have the WSDOT signature block. Typical roadway sections should show lane, shoulder, planter / amenity zone, traffic islands, shy to curb, raised curb (include type), barrier, or guardrail and sidewalk widths. The roadway sections should also show alignment centerline, ditches (slopes labeled), cut and fill slopes, slope rounding and right of way lines. Materials and material depths should not be shown. If they are shown then they should not be labeled. References to construction methods should not be included. Typical roadway sections should be separate sheets at the end of the channelization plan set. The roadway sections may be placed on the plan sheets if sufficient room is available. Note: all widths measured to curbing are measured to the face of curb and not the center of curb.

- [x] Typical roadway sections. Where a feature line does not follow the alignment centerline, label widths on both sides of the centerline.

CHANNELIZATION PLAN REVIEW PROCESS AND FINAL APPROVAL

The channelization plan review process is typically an iterative process. The first submittal is reviewed by an Area Traffic Analyst, the Area Design Reviewer, and several operations groups within Traffic. The first review usually takes the longest time due to the number of groups reviewing the plans. Comments generated from the first review are sent to the designer. The designer addresses the comments and a new channelization plan is submitted for review. The review and comment process is repeated until all issues are resolved. Keep in mind that changes made could generate additional comments if quality control and Design Manual guidance is not followed.

After the plans have been reviewed, all the issues have been resolved, and all design variances, etc. have been approved, a full size mylar plan will be requested. The mylar plan must be plotted on full size sheets (22" x 34") and stamped and signed by the design engineer. The mylar plan is then sent to the Traffic Engineer for Area Operations for review and signature. Following that the plan is then sent to the Area Engineering Manager for review and signature. Half size paper copies of the approved plan are made and the signed mylar plan is archived.

- [ ] PE stamped, signed, and dated. Only required for final mylar submittal. PE stamps should be located in the title block of each plan and detail sheet

TO BE COMPLETED AT THE APPROPRIATE TIME

Prepared by: Chris Pallas **Initials:** cp